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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/657,568

09/08/2003

Abolade Gbadegesin

MS1-1517US

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7590

09/24/2008

LEE & HAYES PLLC

421 W RIVERSIDE AVENUE SUITE 500

SPOKANE, WA 99201

EXAMINER

BATES, KEVIN T

ART UNIT

PAPER NUMBER

2153

MAIL DATE

DELIVERY MODE

09/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/657,568	Applicant(s) GBADEGESIN ET AL.	
	Examiner KEVIN BATES	Art Unit 2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 and 87-90 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 and 87-90 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8-25-08, 6-17-08</u> . | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

This Office Action is in response to a communication made on August 28, 2008.

The Information Disclosure Statements filed August 25, 2008 and June 17, 2008 have been considered.

Claims 87-90 have been newly added.

Claims 21-86 have been cancelled.

Claims 1-20 have been amended.

Claims 1-20 and 87-90 are pending in this application.

Claim Objections

Claim 3 objected to because of the following informalities: The claim recites the limitation "configured to received", it seems like the limitation should recite "configured to receive". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, 8, and 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brendel (5774660) in view of Krause (6047323).

Regarding claim 1, Brendel teaches one or more processor-accessible storage media comprising processor-executable instructions that, when executed, direct a device to perform actions comprising:

accepting a connection at the first device (Col. 12, lines 10-17);

aggregating a connection state for the connection from a protocol stack (Col. 12, lines 25-29); and

sending the connection state for injection into a second protocol stack at a second device (Col. 12, lines 38-54).

Brendel does not explicitly indicate receiving data at the first device as a result of accepting the connection, aggregating a protocol state of a first protocol state and the data to constitute a binary blob, and sending the binary blob to the second device.

Krause teaches a system of TCP migration that includes migrating after the first device has been receiving data from the connection, aggregating a protocol state of a first protocol state and the data to constitute a binary blob, and sending the binary blob to the second device (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 11, Brendel teaches one or more processor-accessible storage media comprising processor-executable instructions that, when executed, direct a device to perform actions comprising: receiving a connection state for a connection (Col. 12, lines 38-54); injecting the connection state for the connection into a network stack (Col. 12, lines 52-54); and continuing the connection using the injected connection state (Col. 11, lines 20-23).

Brendel does not explicitly indicate receiving data at the first device as a result of accepting the connection, aggregating a protocol state of a first protocol state and the data, and sending the aggregated state asynchronously to the second device.

Krause teaches a system of TCP migration that includes migrating after the first device has been receiving data from the connection, aggregating a protocol state of a first protocol state and the data, and sending the aggregated state asynchronously to the second device (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 2, Brendel teaches the one or more processor-accessible storage media as recited in claim 1, wherein determining the second device to receive migration of the connection state from among a plurality of second devices (Fig. 6).

Brendel does not explicitly indicate a function call to the topmost layer to initiate the aggregation of the connection state.

Krause teaches a function call to the topmost layer to initiate the aggregation of the connection state (Col. 65, lines 10 – 22).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 3, Brendel teaches the one or more processor-accessible storage media as recited in claim 1.

Brendel does not explicitly sending the binary blob asynchronously to a connection migratory component at a second device wherein the connection migrator is configured to receive the binary blob as a bundle, reassemble the connection state from the binary blob, and infuse the connection state into the second protocol stack at the second device.

Krause teaches sending the binary blob asynchronously to a connection migratory component at a second device wherein the connection migrator is configured to receive the binary blob as a bundle, reassemble the connection state from the binary blob, and infuse the connection state into the second protocol stack at the second device (Col. 68, lines 30 – 62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's

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TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 4, Brendel teaches the one or more processor-accessible storage media as recited in claim 1, wherein the action of aggregating comprises an action of: compiling a protocol state from the protocol stack, wherein the compiled protocol state includes destination and source ports and IP addresses (Col. 11, line 64 – Col. 12, line 2, where the TCP state is a combination of information from the TCP/IP layers, for example the TCP state includes information such as acknowledgement number, sequence number (Col 12, lines 19-23; TCP layer), checksums for error detection (Col. 14, lines 1-5, and clients IP address (Col. 14, lines 14-21, IP layer)).

Brendel does not explicitly indicate compiling the connection state as a binary blob.

Krause teaches compiling the connection state as a binary blob which is aggregated from the protocol stack (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 5, Brendel teaches the one or more processor-accessible storage media as recited in claim 4, wherein the action of compiling comprises an action of: compiling the protocol state from the protocol stack starting at a highest level of the

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protocol stack (Col. 11, line 64 – Col. 12, line 2, where the TCP state is a combination of information from the TCP/IP layers, for example the TCP state includes information such as acknowledgement number, sequence number (Col 12, lines 19-23; TCP layer), checksums for error detection (Col. 14, lines 1-5, and clients IP address (Col. 14, lines 14-21, IP layer)).

Krause teaches compiling the connection state as a binary blob which is aggregated from the protocol stack (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 6, Brendel teaches the one or more processor-accessible storage media as recited in claim 4, wherein the action of compiling comprises an action of: compiling the protocol state from the first protocol stack at a transmission control protocol (TCP) stack portion and an internet protocol (IP) stack portion (Col. 11, line 64 – Col. 12, line 2, where the TCP state is a combination of information from the TCP/IP layers, for example the TCP state includes information such as acknowledgement number, sequence number (Col 12, lines 19-23; TCP layer), checksums for error detection (Col. 14, lines 1-5, and clients IP address (Col. 14, lines 14-21, IP layer)).

Regarding claim 8, Bendel teaches the one or more processor-accessible storage media as recited in claim 1, wherein the action of sending comprises actions of:

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transmitting the connection state from an the first device to the second device in a reliable manner such that the binary blob may be received intact at the target device even if one or more packets that comprise the connection state are lost or corrupted (Col. 13, line 66 – Col. 14, line 33, where the messages are sent using TCP which provides reliable communication using acknowledgements and checksums).

Brendel does not explicitly indicate sending a binary blob in an asynchronous manner.

Krause teaches compiling the connection state as a binary in an asynchronous manner (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 12, Brendel teaches the one or more processor-accessible storage media as recited in claim 11, wherein the action of continuing comprises an action of: continuing the connection by indicating received packets up to an application in accordance with the injected connection state (Col. 11, lines 20-23).

Regarding claim 13, Brendel teaches the one or more processor-accessible storage media as recited in claim 11, wherein: the action of receiving comprises an action of: receiving the connection state, the connection state having a protocol state and data for the connection (Col. 12, lines 38-54); and the action of injecting comprises an action of: infusing the protocol state into a second protocol stack forming a portion of

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the network stack at the second device, and directing data for the connections state to an application at the second device as if the second device were part of a new locally terminated connection (Col. 12, lines 38-54).

Brendel does not explicitly indicate sending a binary blob in an asynchronous manner.

Krause teaches compiling the connection state as a binary in an asynchronous manner (Col. 67, line 28 – Col. 68, line 56; more specifically Col. 68, lines 44 – 52).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use Krause's teaching of migrating a TCP connection in Brendel's TCP migration to be able to migrate more mature TCP connection comprising a more complicated state.

Regarding claim 14, Brendel teaches the one or more processor-accessible storage media as recited in claim 11, wherein the action of injecting the connection state further comprises an action of: indicating the data for the connection up the network stack toward an application (Col. 13, line 66 – Col. 14, line 33).

Regarding claim 15, Brendel teaches the one or more processor-accessible storage media as recited in claim 11, wherein the action of injecting comprises an action of: infusing a protocol state from the connection state into a protocol stack portion of the network stack (Col. 12, lines 38-54).

Regarding claim 16, Brendel teaches the one or more processor-accessible storage media as recited in claim 15, wherein the action of infusing comprises an action of: infusing the protocol state into the protocol stack starting at a highest level of the

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protocol stack (Col. 11, line 64 – Col. 12, line 2, where the TCP state is a combination of information from the TCP/IP layers, for example the TCP state includes information such as acknowledgement number, sequence number (Col 12, lines 19-23; TCP layer), checksums for error detection (Col. 14, lines 1-5, and clients IP address (Col. 14, lines 14-21, IP layer)).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7, 9, 10, and 17-20 rejected under 35 U.S.C. 103(a) as being unpatentable over Bendel in view of Krause, and in further view of Westberg (6041054).

Regarding claims 7 and 17, Bendel in combination with Krause teaches the one or more processor-accessible storage media as recited in claim 1, wherein the action of sending comprises actions of: bundling the connection state with data that corresponds to the connection to produce a binary blob; and transmitting the binary blob from an originating device to a target device (Col. 12, lines 30 – 54, where a binary blob is defined in the specification as a communication of the connection state and communication data and Bendel teaches transmitting that data).

Bendel does not explicitly indicate a flow identifier.

Westberg teaches that sessions in the TCP/IP network can be given flow or session identifiers (Col. 6, lines 6-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a session identifier to the flows in the session table in Bendel to more quickly identify accepted communication sessions.

Regarding claim 9, Bendel teaches the one or more processor-accessible storage media as recited in claim 1.

Bendel does not explicitly indicate the processor-executable instructions that, when executed, direct the device to perform further actions comprising: selecting a flow identifier for the connection responsive to a connection counter; and sending the flow identifier to identify packets corresponding to the connection.

Westberg teaches that sessions in the TCP/IP network can be given flow or session identifiers that encapsulate the IP packets (Col. 6, lines 22-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a session identifier to the flows in the session table in Bendel to more quickly identify accepted communication sessions.

Regarding claims 10 and 19, Bendel teaches the one or more processor-accessible storage media as recited in claim 1, wherein the action of sending comprises an action of: sending the connection state to a targeted device (Col. 12, lines 38-54).

Bendel does not explicitly indicate wherein the processor-executable instructions, when executed, direct the device to perform a further action comprising: forwarding

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subsequent packets for the connection to the targeted device using a flow identifier to encapsulate the subsequent packets.

Westberg teaches that sessions in the TCP/IP network can be given flow or session identifiers that encapsulate the IP packets (Col. 6, lines 22-43).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a session identifier to the flows in the session table in Bendel to more quickly identify accepted communication sessions.

Regarding claim 18, Bendel in combination with Krause teaches the one or more processor-accessible storage media as recited in claim 11, wherein the action of receiving comprises actions of: receiving a binary blob from an originating device at a target device, the binary blob including the connection state and a data that corresponds to the connection (Krause, Col. 67, line 28 – Col. 68, line 56); and unbundling the connection state and the data at a level of the network stack that is below a protocol stack portion of the network stack (Brendel, Col. 13, line 18-46).

Bendel does not explicitly indicate a flow identifier.

Westberg teaches that sessions in the TCP/IP network can be given flow or session identifiers (Col. 6, lines 6-11).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a session identifier to the flows in the session table in Bendel to more quickly identify accepted communication sessions.

Regarding claim 20, Bendel teaches the one or more processor-accessible storage media as recited in claim 11, including receiving the connection state from an originating device (Col. 12, lines 38-54).

Bendel does not explicitly indicate the action of receiving comprises an action of; wherein the processor-executable instructions, when executed, direct the device to perform a further action comprising: receiving from the originating device encapsulated packets that have a flow identifier; and de-encapsulating the encapsulated packets using an encapsulation mapping entry that links the flow identifier to a source/destination pair.

Westberg teaches receiving from the originating device encapsulated packets that have a flow identifier; and de-encapsulating the encapsulated packets using an encapsulation mapping entry that links the flow identifier to a source/destination pair (Col. 6, lines 44-62).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to assign a session identifier to the flows in the session table in Bendel to more quickly identify accepted communication sessions.

Regarding claims 87-90, these claims contain the same or similar limitations as found in claims 1-3 and 7-8 and are rejected under the same rationale.

Conclusion

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEVIN BATES whose telephone number is (571)272-3980. The examiner can normally be reached on 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin Bates/
Primary Examiner, Art Unit 2153